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Martin D. Richek

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DANN, DORFMAN, HERRELL & SKILLMAN  
1601 MARKET STREET  
SUITE 2400  
PHILADELPHIA, PA 19103-2307

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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MARTIN D. RICHEK

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Appeal 2008-0564  
Application 10/079,928  
Technology Center 2100

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Decided: May 14, 2008

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Before JAMES D. THOMAS, HOWARD B. BLANKENDSHIP  
and JAY P. LUCAS, *Administrative Patent Judges*.

THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 3 through 10, 12, 13, 15 through 23, 25 through 28, and 30 through 35. We have jurisdiction under 35 U.S.C. § 6(b).

As best representative of the disclosed and claimed invention, independent claim 3 is reproduced below:

3. A computer-implemented method of memory management, comprising the steps of:

providing a smart pointer for association with a memory-resident element, the smart pointer including a next pointer;

providing an assignment means for assigning the next pointer to point to the smart pointer thereby creating a linked list comprising the smart pointer;

providing a comparison means for comparing the value of the next pointer to the value of the memory location of the smart pointer in which the next pointer is included, whereby a determination can be made if the linked list contains more than one smart pointer; and

deleting the memory-resident element associated with the smart pointer if the value of the next pointer of the smart pointer is equal to the value of the memory location of the smart pointer in which the next pointer is included and not deleting the memory-resident element if the value of the next pointer of the smart pointer is not equal to the value of the memory location of the smart pointer in which the next pointer is included.

The following reference is relied on by the Examiner:

Oliver                                      US 6,144,965                                      Nov. 7, 2000

Claims 3 through 10, 12, 13, 15 through 23, 25 through 28, and 30 through 35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Oliver.

Rather than repeat verbatim the positions of the Appellant and the Examiner, reference is made to the Brief (no Reply Brief has been filed) for Appellant's positions, and to the Answer for the Examiner's positions.

#### OPINION

For the reasons set forth by the Examiner in the Answer, as expanded upon here, we sustain the rejection under 35 U.S.C. § 102 of all claims on appeal. Beginning at page 4 of the Answer, the Examiner has set forth a

detailed correlation of the corresponding teachings and figures of Oliver as to each independent claim 3, 13, 23, and 35 on appeal, as well as all dependent claims. Correspondingly, Appellant's arguments beginning at page 12 of the Brief details Appellant's alleged distinctions of each independent claim, 3, 13, 23, and 35. The positions with respect to each of these independent claims appear to be the same since each recites corresponding features. Pages 20 and 21 of the Brief present separate arguments as to dependent claim 34, but no arguments are presented as to any other dependent claims.

As to each independent claim, Appellant generally urges that Oliver does not teach the claimed comparison means where Appellant's claims are said to recite a comparison of memory values whereas Oliver is alleged not to compare address values but to compare the values of the next and pervious pointers per se. We do not agree with these assertions which are made for each independent claim. The Examiner correctly points out at the top of page 20 of the Answer that pointers, by definition, indicate memory locations or addresses rather than the data itself at that location. Since no Reply Brief has been filed, this is not contested. Therefore, from an artisan's perspective, the artisan would well understand that the comparison of values of the various pointers in Oliver is inclusive of the determination of comparing the address values associated with those respective pointers.

From our own review of Oliver, the concept of smart pointers in the computer programming arts is known as a prior art concept associated with the object-oriented programming language C++ discussed throughout Oliver. Although many arguments in the Brief relative to each independent

claim, such as to those at pages 14 and 15 of the Brief, appear to invite us to read the disclosed features of the Specification into the subject matter of the claims on appeal, it appears to us that the subject matter of Oliver is consistent with the prior art problems Appellant appears to allege to have overcome. The discussion “garbage collection” beginning at column 1 of Oliver relates to various approaches in the art of destroying or otherwise removing an object in object oriented programming constructs that are no longer used or necessary. Such a situation is stated to exist when no pointers to an object continue to exist. Corresponding prior art removal approaches are shown in figures 1C, 2C, 4C, and 5D as relied upon by the Examiner. The Examiner in fact appears to rely upon the entire data constructs of the pointers among the various portions of figure 5 of Oliver including the next pointer indicia as well as previous pointer indicia (the latter of which is recited specifically in independent claim 35). A linked list of three pointers is shown in figure 5C to comprise a ring. Remarkably, the showing of the comparison and optional deletion capabilities or non-deletion capabilities of the last two clauses of each independent claim on appeal are shown in figure 5D of Oliver and appear to correspond to Appellant’s disclosed figure 4. Therefore, the Examiner’s reliance on the substance of column 5 for each of the respective portions of figure 5 is well taken.

The Examiner’s responsive arguments beginning at page 19 of the Brief address each of the arguments for each independent claim set forth in the Brief. Even though the Examiner appears not to address the particulars of dependent claim 34 among these responsive arguments, the Examiner has addressed the rejection of claim 34 at pages 18 and 19 of the Answer. From

our understanding of the disclosed invention, the automatic conversion feature of claim 34 is said to exist between smart pointers of different classes in the same class hierarchy. On the other hand, this is not claimed. In fact, the claimed first class may in fact be the same as the recited second class since they are not recited to be different. As such, the automatic conversion feature that is claimed between a first smart pointer and second smart pointer may occur in that claim within the same class structure which is implicit within the nature of the disclosed invention in Oliver anyway. Moreover, the various class structures and the class inheritance requirements within a normal class hierarchy within object-oriented programming are generally discussed among the related arts beginning at column 1 of Oliver. All of this relates to well known design features within object oriented programming anyway. We therefore sustain the rejection of separately argued dependent claim 34.

Overriding all these consideration, the rule that anticipation requires that every element of a claim appears in a single reference accommodates situations where the common knowledge of “technologists” is not recorded in a reference, i.e., where technical facts are known to those in the field of the invention. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269 (Fed. Cir. 1991). Similarly, *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995), confirms the longstanding interpretation that the teachings of a reference may be taken in combination with knowledge of the skilled artisan to put the artisan in possession of the claimed invention within 35 U.S.C. § 102 even though the patent does not specifically disclose certain features.

In view of the foregoing, the decision of the Examiner rejecting all claims on appeal under 35 U.S.C. § 102 is affirmed since Appellant has not convincingly shown any error in the Examiner's reasoning and application of Oliver to the claims on appeal.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. §1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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1601 MARKET STREET  
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PHILADELPHIA PA 19103-2307